STUDIES IN AMERICAN ORCHIDS, V.

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While attending the 3rd World Orchid Conference held in London, England, in May 1960, I had the opportunity to study the orchid collections at the leading European Institutions: Royal Botanic Gardens, Kew; British Museum, Natural History Museum, Paris; Delessert Herbarium, Geneva and the Botanical Institute, Madrid. These herbaria contain rich collections of type material many of which represent obscurely known concepts, although they are in an excellent condition for diagnostic purposes.

The following taxonomic notes are mostly based on specimens preserved in the above named Institutions. The majority of the taxa here discussed are part of the Orchid Flora of Colombia and Ecuador, the preparation of which is supported by the National Science Foundation. This assistance of grant-in-aid is gratefully acknowledged.

Monophyllorchis microstyloides (Rchb. f.) Garay, comb. nov.

Basionym: *Pogonia microstyloides* Rchb. f. in Flora 69: 547, 1886.
Synonym: *Monophyllorchis colombiana* Schltr. in Fedde Rep. Beih. 7: 39, 1920.

An examination of the type material of *Pogonia microstyloides* and of a lifesize drawing of the type of *Monophyllorchis colombiana* indicates that the latter concept is merely a luxuriant form of the former. While the types of both species were collected in Colombia, Dept. Cauca, I have recently seen additional material from Ecuador: Prov. Tunguragua, Río Negro. *Fagerlind & Wibom 1252* (S); Prov. Napo-Pastaza, Mera, on shore of Río Pastaza. *Asplund 18507* (S, AMES).

Cranichis crumenifera Garay, sp. nov.

Terrestris, erecta, usque ad 30 cm. alta; radicibus crassiusculis, leviter flexuosis, glabris; caule erecto, satis gracili, in parte inferiore distanter bifoliato; foliis caulinis, carnosis, lanceolatis, apice acutis vel acuminatis, basi caulem amplectentibus, usque ad 13 cm. longis et 1.5 cm. latis; inflorescentia cylindracea, satis dense multiflora; floribus non resupinatis, albido-virescentibus; bracties ovato-lanceolatis, acuminatis, ovariis pedicellatis aequalibus seu paulo longioribus, 8-10 mm. longis; sepalo postico anguste ovato, cucullato, uninervio, 6 mm. longo, 1.5 mm. lato; sepalis lateralibus oblique late ovatis, obtusis, 3-nerviis, 6 mm. longis, 2.5 mm. latis; petalis linearibus, obtusis, uninerviis, margine sparse ciliolatis, 5 mm. longis, 1 mm. latis; labello e basi cuneata ovato-elliptico, apice acuto, basi in crumenam subrotundatam producto, disco 3-nervio, 7 mm. longo, 2 mm. lato; columna humili, haud producta, rostello proboscideo; ovario cylindrico cum pedicello 8-10 mm. longo.

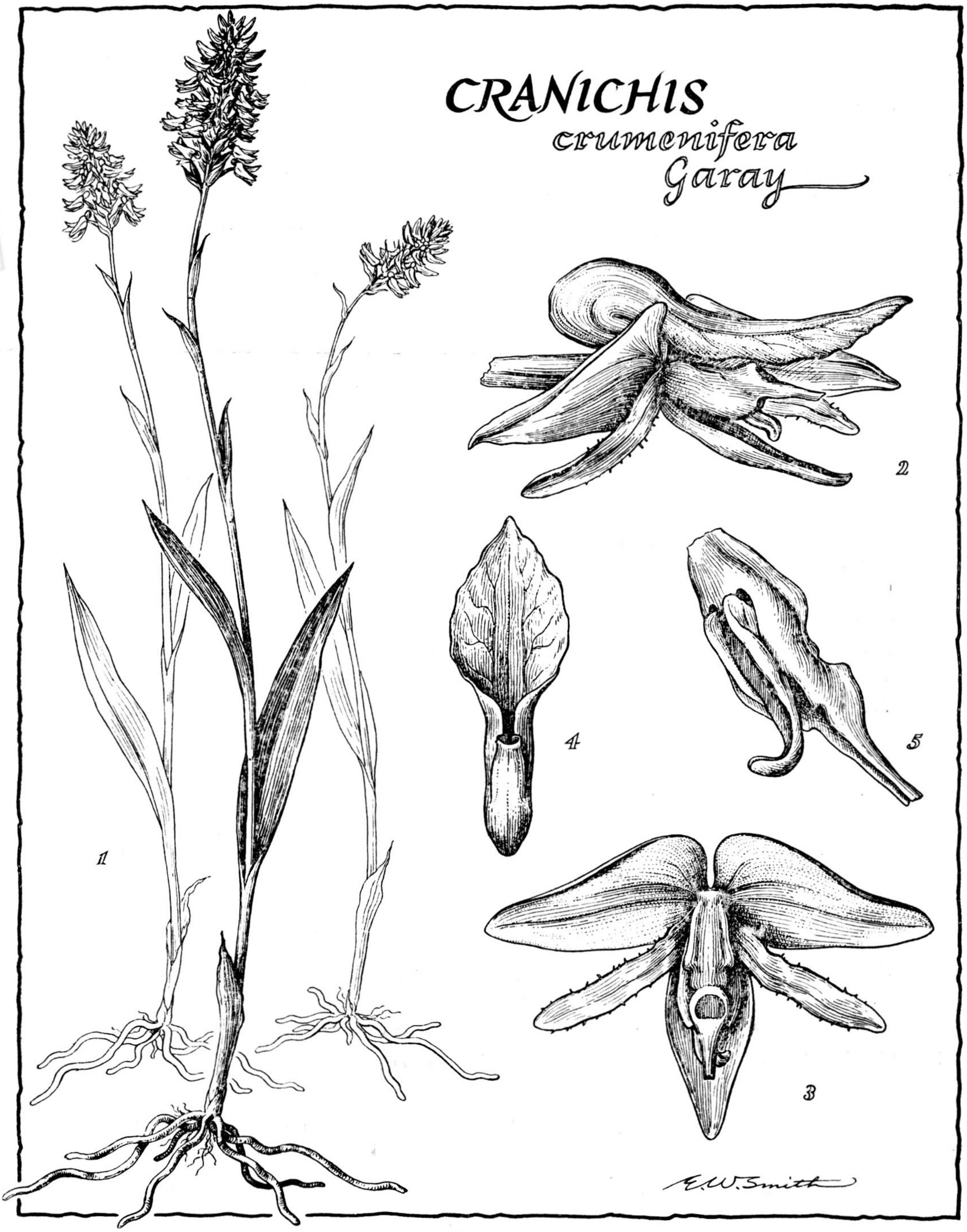
Colombia: Dept. Cundinamarca, Sopó, 2600-2700 m. alt. *Martin Schneider 643.* (Type). Type in the National Herbarium of Colombia, Bogotá. Duplicates of the type in the Orchid Herbarium of Oakes Ames, Harvard University and in the Natural History Museum, Stockholm, Sweden.

This new species differs from the other known species in the genus by having a prominent crumenate base to the lip. This species was first collected by Celestino Mutis during "La Real Expedición Botánica del Nuevo Reino de Granada", between 1760 and 1817. The original material is lost, but a water-color drawing prepared under the supervision of Mutis is preserved in the Jardín Botánico in Madrid, Spain.

Palmorchis puber (Cogn.) Garay, comb. nov.

Basionym: *Elleanthus puber* Cogn. in Mart. Fl. Bras. 3, pt. 5: 333, 1901.
Synonym: *Evelyna pubera* Lindl. ex Cogn. l. c.

A critical study of the type, *Spruce 3407* (K, P, W) indicates that this species is a member of the genus *Palmorchis,* and apparently closely related to *P. guianensis* (Schltr.) Ames & Schweinf. Its slender stem, the few, distantly placed, narrowly lanceolate leaves and the pendulous, dense inflorescence lends a rather characteristic appearence to this species.


CRANICHIS
crumenifera
Garay
2
4
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1
3
E.W. Smith

EXPLANATION OF PLATE

1. General appearence of plants.
2. Side view of flower.
3. Expanded flower without lip.
4. Lip from above.
5. Column.

Pleurothallis revoluta (Ruiz & Pav.) Garay, comb. nov.

Basionym: *Humboldtia revoluta* Ruíz & Pav. Syst. Veg. 1: 235, 1798.
Synonym: *Pleurothallis diffusa* Poepp. & Endl. Nov. Gen. & Sp. 1: 49, 1836.

Pleurothallis semipellucida Rchb. f. in Linnaea 22: 823, 1849.

Humboldtia diffusa O. Ktze. Rev. Gen. Pl. 2: 667, 1891.
Humboldtia semipellucida O. Ktze. Rev. Gen. Pl. 2: 668, 1891.

Pleurothallis complicata Rolfe in Mem. Torr. Bot. Cl. 6: 121, 1896.

Pleurothallis genychila Schltr. in Fedde Rep. Beih. 9: 74, 1921.

Although the type specimen of *Humboldtia revoluta* in the Madrid Herbarium is in a rather advanced state of fructification, it is still sufficiently preserved for diagnostic purposes. A dissection of flowers revealed no specific differences in morphology from that of *P. diffusa* and its synonyms. Likewise an examination of the type of *P. genychila* showed it to be referable to *P. revoluta.*

Lepanthopsis astrophora (Rchb. f. ex Krzl.) Garay, comb. nov.

Basionym: *Pleurothallis astrophora* Rchb. f. ex Krzl. in Xenia Orch. 3: 85, 1892.

Until now *Pleurothallis astrophora* was known only from cultivation. Recently Mr. Dunsterville discovered it growing on trees in claud forests at 4500 ft. above El Limón in Venezuela. An examination of the living material *(Dunsterville 580)*, as well as the type, unquestionably confirms its generic position in *Lepanthopsis.*

Platystele stenostachya (Rchb. f.) Garay, comb. nov.

Basionym: *Pleurothallis stenostachya* Rchb. f. in Linnaea 18: 399, 1844.

Synonym: *Pleurothallis dubia* Rich. & Gal. in Ann. Sci. Nat. ser. 3, 3: 16, 1845.

Pleurothallis minutiflora S. Wats. in Proc. Am. Acad. 23: 286, 1888.

Pleurothallis myriantha Lehm. & Krzl. in Engl. Bot. Jahrb. 26: 445, 1899.

Pleurothallis Lankesteri Rolfe in Kew Bull. 210, 1914.
Pleurothallis dubia var. *myriantha* Schltr. in Fedde Rep. Beih. 17: 20, 1922.

Pleurothallis stenostachya var. *Lankesteri* Ames Sched. Orch. 7: 31, 1924.

This rather common Central American species, known from Mexico to Panama, is now reported from two Andean States in South America: **Venezuela;** in semideciduous light forests, near Duaca. *Dunsterville 647* (AMES). **Colombia;** Dept. El Valle; Córdoba, 50-100 m. alt. *Killip & García Barriga 33407a* (AMES); Río Sanquininí, 1250-1400 m. alt. *Cuatrecasas 15642* (AMES). The generic position of this species judged by the columnar structure is undoubtedly in *Platystele*.

Lankesterella orthantha (Krzl.) Garay, comb. nov.

Basionym: *Spiranthes orthantha* Krzl. in Ann. Nat. Hist. Mus. Wien 27: 109, 1913.

Synonym: *Lankesterella costaricensis* Ames Sched. Orch. 4: 4, 1923.
Cladobium costaricense Schltr. in Fedde Rep. Beih. 19: 87, 1923.

Recently I had the opportunity to study the type of *Spiranthes orthantha* in the Vienna Herbarium and have found it to be conspecific with *Lankesterella costaricensis.* Therefore its range is extended from Central America to Ecuador and Venezuela where Mr. Dunsterville (Nº 600) found it in cloud forests at about 9000 ft., above La Mucuy, near Mérida.

Epidendrum acuminatum Ruíz & Pav. Syst. Veg. 1: 248, 1798.

Synonym: *Epidendrum cornutum* Lindl. in Hook. Journ. Bot. 3: 86, 1841.

Epidendrum anthoceros Lind. & Rchb. f. in Bonpl. 2: 281, 1854.

Epidendrum Pavonianum Rchb. f. in Bonpl. 4: 215, 1856.

Epidendrum falcisepalum Lehm. & Krzl. in Engl. Bot. Jahrb. 26: 474, 1899.

Epidendrum Tequendamae Lehm. & Krzl. in Engl. Bot. Jahrb. 26: 475, 1899.

Epidendrum ornithoglossum Schltr. in Fedde Rep. 15: 55, 1917.

Epidendrum melinoacron Schltr. in Fedde Rep. Beih. 9: 88, 1921.

The type of *E. acuminatum* in the Madrid Herbarium is in excellent condition; an examination of this and the types listed in synonymy indicates that they are all represent the same species. This taxon is known from the Andean Region of Venezuela, Colombia, Ecuador and Perú. The description of *E. acuminatum* by Lindley in his Folia Orchidacea Epidendrum, as well as the material upon which it is based represents a widely different species, apparently *E. chorthophyllum* Schltr.

Epidendrum cernuum H. B. K. Nov. Gen. & Sp. 1: 353, 1815.

Synonym: *Epidendrum fruticetorum* Schltr. in Fedde Rep. Beih. 8: 72, 1921.

Epidendrum cernuum is a rare and completely misunderstood species. Lindley, in his Folia Orchidacea Epidendrum, describes and identifies a collection by Jameson with Humboldt's concept. Schlechter, in 1921, recognized Lindley's mistake and pointed out that Lindley's description is referable to *E. pichinchae* Schltr. However, after claiming to have seen the original specimen of Humboldt, he proceeds to describe *E. fruticetorum* as a new species in the same publication. Having studied the type of *E. fruticetorum* as well as that of *E. cernuum,* I fail to recognize any difference between the two species. Since Schlechter's drawing of *E. fruticetorum,* published postmortem by Mansfeld, is quite misleading, I am including a drawing of the floral details prepared from the type of *E. cernuum*. This species is known from Colombia and Ecuador.

Epidendrum coronatum Ruíz & Pav. Syst. Veg. 1: 242, 1798.

Synonym: *Epidendrum sulphuroleucum* Barb. Rodr. Gen. & Sp. Orch. Nov. 1: 56, 1877.

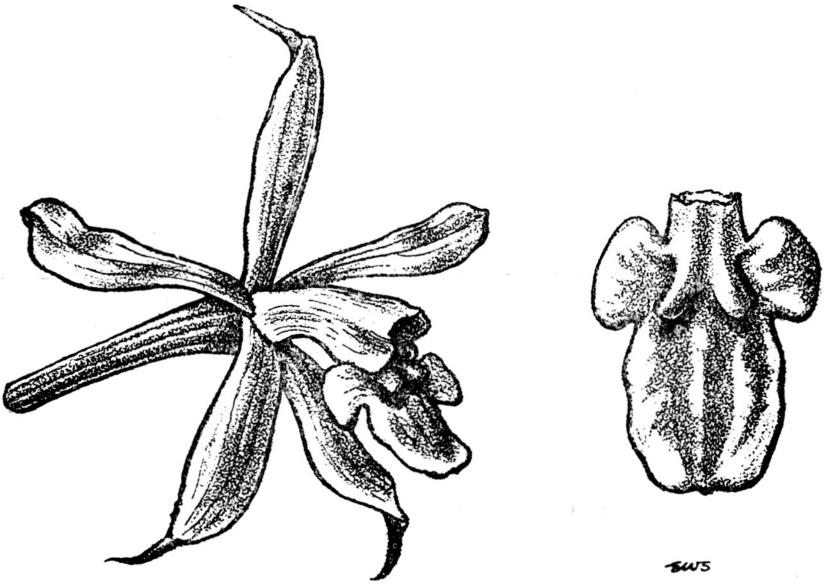

Fig. 2.—*Epidendrum cernuum.*

Epidendrum compositum Vell. Fl. Flum. 9: t. 39, 1881.

Epidendrum moyobambae Krzl. in Fedde Rep. 1: 185, 1905.

Epidendrum subpatens Schltr. in Fedde Rep. Beih. 17: 40, 1922.

Epidendrum benignum Ames Sched. Orch. 2: 26, 1923.

Epidendrum amazonicum Schltr. in Beih. Bot. Centralbl. 42, pt. 2: 78, 1925.

The earliest name for this wide-spread species is E. *coronatum* as shown by an examination of the type in the Madrid Herbarium. *Epidendrum sulphuroleucum*, of which I have seen Barbosa-Rodrigues' original painting in the Ames Herbarium, is certainly referable here and not to *E. patens* Sw. as Cogniaux thought. The remaining synonyms have been at various times already reduced to *E. moyobambae*. This species is known from Mexico to Panama, from Venezuela to Peru, Brazil and the Amazonas.

Epidendrum glandulosum (H. B. K.) Garay, comb. nov.

Basionym: *Cymbidium glandulosum* H. B. K. Nov. Gen. & Sp. 1: 340, 1815.

Synonym: *Epidendrum stellatum* Lindl. Folia Orch. Epid. 21, 1853.
Epidendrum porphyrospilum Rchb. f. in Linnaea 41: 80, 1877.
Encyclia stellata Schltr. Die Orchideen 212, 1914.

An examination of the type of *Cymbidium glandulosum* in the Paris Herbarium indicates that this species is a member of the genus Epidendrum.

The type of *E. stellatum* in the Lindley Herbarium shows an inflorescence with a few lateral branches; otherwise it is identical with *C. glandulosum.*

Likewise *E. porphyrospilum* in the Reichenbach Herbarium, described from an unknown source, does not exhibit any appreciable differences by which it could be separated from *C. glandulosum.*

This species is known from Venezuela and Colombia.

Cyrtopodium paniculatum (Ruíz & Pav.) Garay, comb. nov.

Basionym: *Maxillaria paniculata* Ruíz & Pav. Syst. Veg. 1: 223, 1798.
Synonym: *Dendrobium paniculatum* Pers. Syn. Pl. 2: 524, 1807.
Dendrobium plicatum F. G. Dietr. Lex. Gärtn. Bot. Nachtr. 2: 651, 1816.
Cyrtopodium Naiguatae Schltr. in Fedde Rep. Beih. 6: 43, 1919.

A comparison of the type material of *Maxillaria paniculata* in the Madrid Herbarium and of *Cyrtopodium Naiguatae* in the Ames Herbarium does not show any character by which the two species could be kept separate. This species is known from Venezuela, Colombia and Peru.

Lycaste longipetala (Ruíz & Pav.) Garay, comb. nov.

Basionym: *Maxillaria longipetala* Ruíz & Pav. Syst. Veg. 1: 220, 1798.
Synonym: *Dendrobium longipetalum* Pers. Syn. Pl. 2: 523, 1807.
Lycaste gigantea Lindl. in Bot. Reg. 29: Misc. p. 15, 1843.
Maxillaria Heynderyexii E. Morr. in Ann. Soc. Bot. Gand. 1: 97, 1845.
Maxillaria gigantea Beer Prakt. Stud. Orch. 265, 1854.

The type of *Maxillaria longipetala* in the Madrid Herbarium, which I have carefully studied, is identical with the well known *Lycaste gigantea*. Unfortunately, the name of this species of horticultural usage has to be altered, due to the priority rule. *Lycaste longipetala* is known from Venezuela to Peru.

Trigonidium insigne Rchb. f. ex Benth. & Hook. Gen. Pl. 3: 567, 1883.

Synonym: *Trigonidium grande* Garay in Amer. Orch. Soc. Bull. 26: 14, 1957.

When *T. grande* was published, I referred to the possibility that my species might represent the imperfectly described *T. insigne*. Since then I had the opportunity to study the type of *T. insigne* at Kew, and now I am convinced that they are conspecific.

Cyrtidium alatum (Lindl.) Garay, comb. nov.

Basionym: *Camaridium alatum* Lindl. in Benth. Pl. Hartweg. 153, 1845.

Synonym: *Chrysocycnis glumaceum* L. O. Wms. in Lilloa 5: 182, t., 1940.

Williams, in his revision of the genus *Chrysocycnis*, made no reference to the segregated genus *Cyrtidium*. This latter concept was established by Schlechter on the account of different vegetative aspects coupled with morphological differences in the flower structure. *Chrysocycnis glumaceum* is described in this revision, but it is a *Cyrtidium*.

When I examined the type of *Camaridium alatum* in the Lindley Herbarium, I was surprised to find it to be conspecific with *Chrysocycnis glumaceum*. This conclusion, however, could not be drawn from a study of the original description.

Sepalosaccus strumatum (Endr. & Rchb. f.) Garay, comb. nov.

Basionym: *Ornithidium strumatum* Endr. & Rchb. f. in Gardn. Chron. n. ser. 2: 772, 1874.

Synonym: *Sepalosaccus humilis* Schltr. in Fedde Rep. Beih. 19: 245, 1923.

Maxillaria strumata Ames & Correll in Bot. Mus. Leafl. Harv. Univ. 11: 17, 1943.

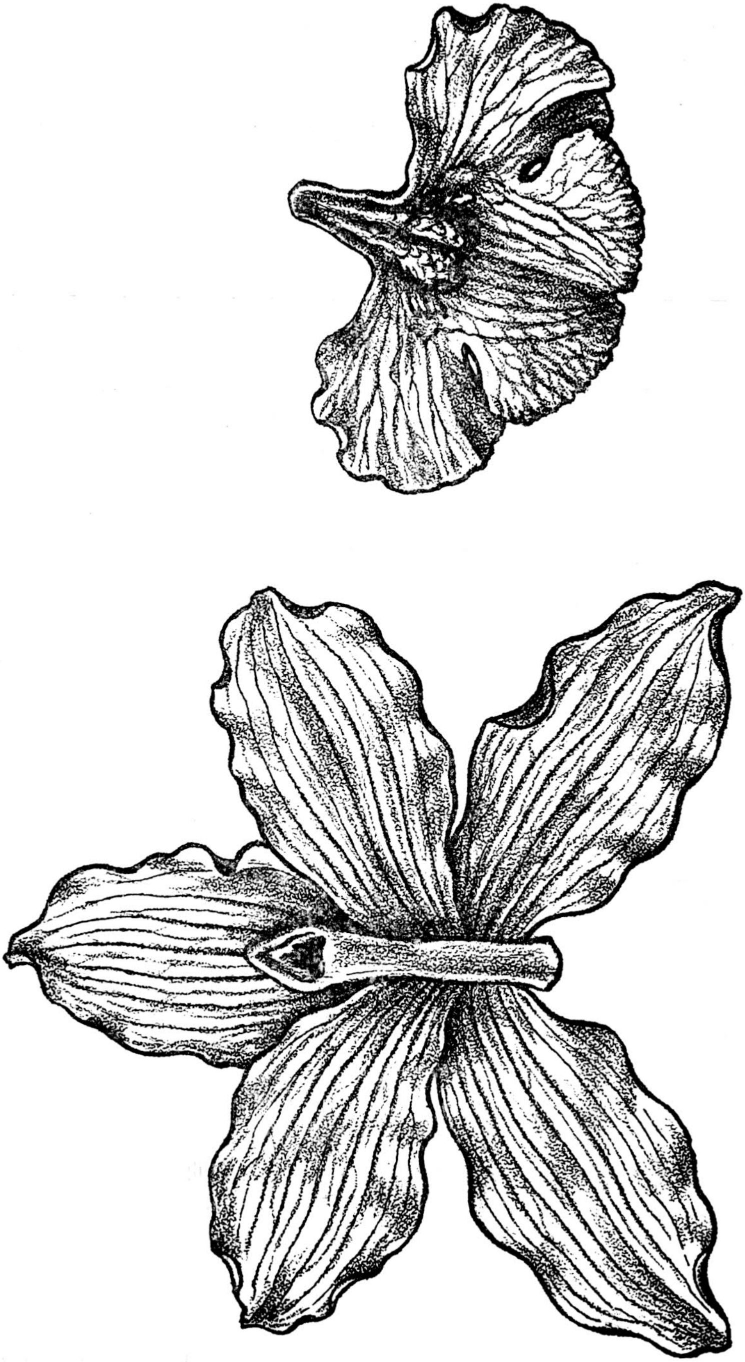

Fig. 3.—*Cyrtopodium paniculatum.*

A study of the type of *Ornithidium strumatum* has shown it to be identical with *Sepalosaccus humilis*. This curious species, originally described from Costa Rica, has recently been reported from Ecuador.

Maxillaria affinis (Poepp. & Endl.) Garay, comb. nov.

Basionym: *Scaphyglottis affinis* Poepp. & Endl. Nov. Gen. & Sp. 1: 59, t. 99A, 1836.

Synonym: *Ponera affinis* Rchb. f. in Bonpl. 2: 22, 1854.

Scaphyglottis affinis, as most of the species described by Poeppig and Endlicher, presents a perplexing problem to taxonomists in interpreting the original description and illustration, because of the highly inacurate floral details.

Having seen the type in the Vienna Herbarium and another collection in the Madrid Herbarium, as well as having collected it myself in the Colombian Amazon basin during the summer of 1960, it is now possible for me to determine the true generic status of this species. In addition to this it is possible to give a correct description of the floral details:

Dorsal sepal narrowly ovate-lanceolate, acute, 6. mm. long, 1.5 mm. wide; lateral sepals obliquely triangular-ovate, acute, 6 mm. long, 2 mm. wide at the base; petals ovate-lanceolate, acute, 5 mm. long, 1.2 mm. wide; lip from a cuneate base 3-lobed in the middle; lateral lobes triangular, obtuse; median lobe quadrate, slightly broader at the base, subtruncate and prominently retuse at the apex, margin somewhat crenulate; disk with a prominent callus at the junction of the lateral and median lobes, 7 mm. long, 3.5 mm. wide at the middle.

This species is known from Colombia and Peru.

Maxillaria bicallosa (Rchb. f.) Garay, comb. nov.

Basionym: *Zygopetalum bicallosum* Rchb. f. in Otia Bot. Hamb. 1: 9, 1878.

Synonym: *Kefersteinia bicallosa* Rchb. f. in Otia Bot. Hamb. 1: 9, 1878.

Ornithidium dolichophyllum Schltr. in Fedde Rep. Beih. 9: 106, 1921.

Maxillaria caespitosa C. Schweinf. in Bot. Mus. Leafl. Harv. Univ. 11: 264, 1945.

A recent collection from Ecuador, *Asplund 19715* (S, AMES), was found to represent *Z. bicallosum*. However, upon examination of the type material in the Reichenbach Herbarium, it became evident that this species is a member of the genus *Maxillaria*. *Ornithidium dolichophyllum*, of which the type was also studied, is identical in every respect with *M. bicallosa*. This species is known from Ecuador and Peru.

Maxillaria chartacifolia Ames & Schweinf. Sched. Orch. 10: 92, 1930.

Synonym: *Trigonidium equitans* Garay in Svensk Bot. Tidskr. 47: 228, fig. 15, 1953.

After having restudied my *Trigonidium equitans*, I found it to be conspecific with the earlier described Central American *M. chartacifolia*. This species in now known from Costa Rica, Panamá and Colombia.

Maxillaria haemathodes (Ruíz & Pav.) Garay, comb. nov.

Basionym: *Fernandezia haemathodes* Ruíz & Pav. Syst. Veg. 1: 240, 1798.

Synonym: *Ornithidium Weberbauerianum* Krzl. in Fedde Rep. 1: 91, 1905.

Maxillaria crassicaulis C. Schweinf. in Bot. Mus. Leafl. Harv. Univ. 11: 267, 1945.

The type of *Fernandezia haemathodes* in the Madrid Herbarium, which is preserved in an excellent condition, shows that it is not specifically separable from *Ornithidium Weberbauerianum*. Since this species, now known from Ecuador and Peru, has not previously been illustrated, a drawing of the floral details is appended.

Odontoglossum ligulatum (Ruíz & Pav.) Garay, comb. nov.

Basionym: *Maxillaria ligulata* Ruíz & Pav. Syst. Veg. 1: 222, 1798.

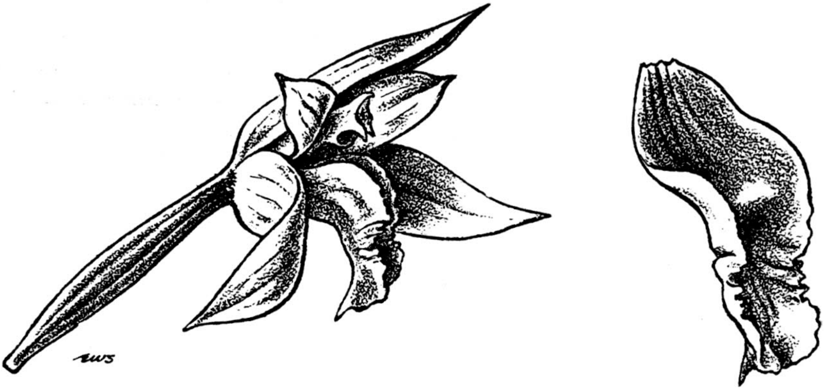

Fig. 4.—*Maxillaria haemathodes.*

Synonym: *Dendrobium ligulatum* Pers. Syn. Pl. 2: 524, 1807.

Odontoglossum myrianthum Rchb. f. Xenia Orch. 1: 189, 1856.

Cyrtochilum myrianthum Krzl. in Engl. Pflanzenr. IV. 50, (Heft 80): 82, 1922.

A detailed study of the type of *Maxillaria ligulata* in the Madrid Herbarium proved it to represent a true *Odontoglossum*. Furthermore, it appears that the type of *O. myrianthum* is identical with this species.